

Claims

1. Use of a microorganism or cell containing a DNA sequence encoding a detectable protein or a protein capable of inducing a detectable signal for the preparation of a diagnostic composition for diagnosis and/or visualization of wounded or inflamed tissue or a disease associated therewith.

2. Use of a microorganism or cell containing a DNA sequence encoding a detectable protein or a protein capable of inducing a detectable signal for the preparation of a pharmaceutical composition for the treatment of wounded or inflamed tissue or a disease associated therewith, wherein said microorganism or cell furthermore contains one or more expressible DNA sequences encoding (a) protein(s) suitable for the therapy of wounded or inflamed tissue or a disease associated therewith.

3. Use according to claim 1 or 2, wherein said protein capable of inducing a detectable signal is a luminescent or fluorescent protein.

4. Use according to claim 3, wherein said luminescent or fluorescent protein is luciferase, RFP or GFP.

5. Use according to claim 4, wherein said microorganism or cell additionally contains a gene encoding a substrate for a luciferase.

6. Use according to claim 1 or 2, wherein said protein capable of inducing a detectable signal is a protein inducing a signal detectable by magnetic resonance imaging (MRI) or capable of binding a contrasting agent, chromophore or a ligand required for visualization of tissues.

7. Use according to any one of claims 1 to 6, wherein said microorganism is a bacterium or a virus.

8. Use according to claim 7, wherein the virus is *Vaccinia* virus.

9. Use according to claim 7, wherein said bacterium is attenuated *Salmonella thyphimurium*, attenuated *Vibrio cholerae*, attenuated *Listeria monocytogenes* or *E.coli*.

10. Use according to any one of claims 1 to 6, wherein the cell is a mammalian cell.

11. Use according to claim 10, wherein the mammalian cell is an autologous or heterologous stem cell.

12. Use according to any one of claims 2 to 11, wherein said protein suitable for the therapy of wounded or inflamed tissue or a disease associated therewith is an enzyme causing cell death or an enzyme causing the digestion of debris.

13. Use according to any one of claims 1 to 12, wherein said disease is endocarditis, pericarditis, inflammatory bowel disease, low back pain (herniated nucleus pulposis), temporal arteritis, polyarteritis nodosa or an arthritic disease.

14. Use according to anyone of claims 1 to 12, wherein said disease is an atherosclerotic disease.

15. Use according to anyone of claims 1 to 12, wherein said disease is coronary artery disease, peripheral vascular disease or cerebral artery disease.

16. Use according to any one of claims 1 to 15, wherein said

diagnosis and/or visualization is carried out by MRI.

17. Use according to any one of claims 2 to 16, wherein said expressible DNA sequences are on a BAC, MAC, cyber cell or cyber virus.

18. Use according to any one of claims 1 to 17, wherein at least one of said DNA sequences is under the control of an inducible promoter.

19. Use of a microorganism or cell as defined in any one of the preceding claims for monitoring the efficacy of an antibiotic regimen or evaluating the resistance of a suture or an implantable material to bacterial colonization.